

What is claimed is:

[Claim 1] 1. A method for writing a multi-session recordable disc, comprising the following steps:

- (a) moving an optical pick-up head of an optical disc drive to a lead-in area of a session of the multi-session recordable disc;
- (b) performing an OPC in the lead-in area of the session of the multi-session recordable disc to generate an OPC output;
- (c) determining a recording power according to the OPC output; and
- (d) completing the session according to the determined recording power.

[Claim 2] 2. The method of claim 1 further comprising the following steps:

- (e) checking if a session of the multi-session recordable disc to be written is a first session of the multi-session recordable disc.

[Claim 3] 3. The method of claim 2 wherein steps (a)–(d) are performed if the session in step (e) is a session other than the first session of the multi-session recordable disc.

[Claim 4] 4. The method of claim 2 further comprising the following steps:

- (f) determining a recording power according to an optimal power calibration (OPC) output of an OPC carried out in a power calibration area (PCA); and
- (g) if the session in step (e) is the first session of the multi-session recordable disc, completing the session of the multi-session recordable disc in step (e) according to the recording power determined in step (f).

[Claim 5] 5. The method of claim 1 further comprising determining a local recording power profile according to the OPC output and predetermined profile data.

[Claim 6] 6. The method of claim 5 wherein determining a local recording power profile according to the OPC output and predetermined profile data comprises determining a local recording power profile by interpolating the predetermined profile data according to the OPC output.

[Claim 7] 7. The method of claim 5 wherein step (d) comprises completing the session according to the determined local recording power profile.

[Claim 8] 8. The method of claim 1 further comprising determining a local recording power profile according to the OPC output and recording power data encoded on the recordable disc.

[Claim 9] 9. The method of claim 8 wherein determining a local recording power profile according to the OPC output and recording power data encoded on the recordable disc comprises determining a local recording power profile by interpolating the recording power data encoded on the recordable disc according to the OPC output.

[Claim 10] 10. The method of claim 8 wherein step (d) comprises completing the session according to the determined local recording power profile.

[Claim 11] 11. The method of claim 1 further comprising deriving a nominal recording power value upon which to base the OPC from predetermined profile data.

[Claim 12] 12. The method of claim 1 further comprising deriving a nominal recording power value upon which to base the OPC from the recording power data encoded on the recordable disc.

[Claim 13] 13. The method of claim 1 further comprising deriving a nominal recording power value upon which to base the OPC from a previous OPC procedure.

[Claim 14] 14. The method of claim 13 wherein the previous OPC procedure is an OPC carried out in a lead-in area of a previous session.

[Claim 15] 15. The method of claim 1, wherein rotation of the recordable disc is at a velocity selected from a range of predetermined velocities being multiples of a base recording velocity and each multiple being equal to or greater than 1.

[Claim 16] 16. The method of claim 1 wherein step (b) comprises performing the OPC in a buffer zone of the lead-in area of the session.

[Claim 17] 17. The method of claim 16 further comprising setting unused frame bits of the buffer zone to a logic zero state.

[Claim 18] 18. The method of claim 1, further comprising the following step:

(h) reading recording power data encoded on the recordable disc.

[Claim 19] 19. The method of claim 18, further comprising the following steps:

- (j) performing an optimum power calibration (OPC) in a power calibration area (PCA) to generate an OPC output; and
- (k) determining a disc-wide recording power profile by interpolation of predetermined profile data according to the OPC output of step (j).

[Claim 20] 20. The method of claim 19 further comprising deriving a nominal recording power value upon which to base the optimum power calibration (OPC) of step (j) from recording power data.

[Claim 21] 21. The method of claim 19 further comprising deriving a nominal recording power value upon which to base the optimum power calibration (OPC) of step (j) from predetermined profile data.

[Claim 22] 22. The method of claim 19 further comprising determining a local recording power profile according to the OPC output of the OPC of step (b) and the disc-wide recording power profile.

[Claim 23] 23. The method of claim 22 wherein determining a local recording power profile according to the OPC output of the OPC of step (b) and the disc-wide recording power profile comprises determining a local recording power profile by interpolating the OPC output of the OPC of step (b) according to the disc-wide recording power profile.

[Claim 24] 24. The method of claim 22 wherein step (d) comprises completing the session according to the determined local recording power profile.

[Claim 25] 25. The method of claim 19 further comprising scaling the disc-wide recording power profile of step (k) according to the OPC output of the OPC of step (b).

